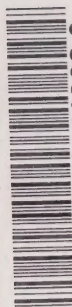


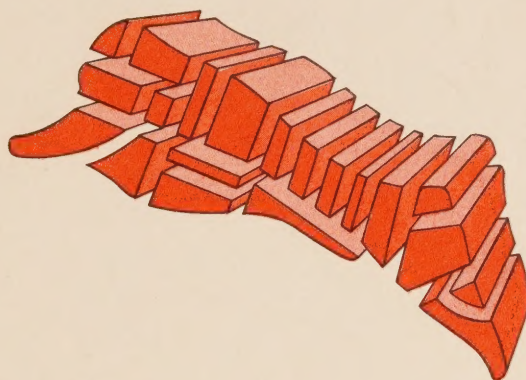
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**COMMISSION OF INQUIRY INTO THE  
MARKETING OF BEEF AND VEAL**

**MARKET INFORMATION FOR BEEF:  
STATUS AND REQUIREMENTS.**

Research Report No. 8  
by  
H. Bruce Huff

Ottawa  
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# N O T E

The following research report was prepared at the request of the Commission of Inquiry into the Marketing of Beef and Veal to assist it in fulfilling its mandate. The analysis and conclusions contained in this report are the responsibility of the author(s) and do not necessarily reflect the views of the Commission.

## Foreword

The author received valuable assistance in the preparation of this report from Arlene Pede of the Committee staff, Nelson Longmuir and Dr. Jim Lowe, Agriculture Canada, the Agriculture Division of Statistics Canada and numerous meetings with industry and government personnel over the past two years.

Thanks goes to Ruth Goddard for the preparation of this report for publication.

Ottawa  
February, 1976

H. Bruce Huff  
Research Director

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## 1. INTRODUCTION

### The Problem

To obtain satisfactory performance in a competitive market environment, it is necessary to have adequate market information, equally accessible to all decision makers. For the Canadian beef industry, while there is a considerable volume of data collected and disseminated, the information system, nevertheless, has been under increasing criticism. Complaints have been that the data are unreliable, biased, untimely and incomplete and that the data agencies are unresponsive to proposals for change, inflexible to the needs of users, and fragmented among competing bureaucracies. Provincial governments, producer groups and trade associations have attempted to assist their clientel by establishing ad hoc programs.

The federal government has recognized its responsibility yet at the same time realized that information collection is expensive and priorities are hard to establish. A value for information is not obtained from the marketplace. Users by and large have difficulty in articulating needs. Furthermore, old programs and procedures are difficult to scrap and unfortunately limited funds exist for evaluation of data requirements.

This paper is intended to respond to numerous questions being asked about the information system. Why are the users becoming so concerned about the system? Has it suddenly become antiquated? Are there fundamental or superficial problems? Who should control the information system? Is it simply a matter of more investment which is required to improve it?

### Objectives

The objectives of the paper can be stated specifically:

1. to examine the type and source of information provided by the federal government market reporting system for beef;
2. to assess the adequacy, accuracy and timeliness for decision makers of the public sources of information presently available;
3. to identify the type, quality and timeliness of market information required by decision makers in the beef industry, and
4. to propose some basic modifications in the type and form of information required by users.

### Scope

The assessment of data is limited to that provided by the two federal government agencies - - Statistics Canada and Agriculture Canada.

The paper documents as completely as possible all statistical series which are currently being collected and/or reported by Agriculture Canada and Statistics Canada on:

- (a) prices for live cattle, carcass beef and retail beef cuts;
- (b) marketings for live cattle and beef;
- (c) trade in live cattle and beef;
- (d) inventories on farms of live cattle;
- (e) beef stocks in storage;
- (f) consumption of beef;
- (g) by-product prices;
- (h) farm income and costs, and
- (i) market interpretation and outlook.

Also included are the specifications or definition of the statistics reported, the method of collection and/or calculation, and the mode of dissemination. This documentation represents an initial attempt to collect beef marketing information and illustrates the necessity of a beef industry handbook of this nature.

The general assessment of the quality of this information pays specific attention to selected key statistics such as live prices, inventories on farms, carcass beef prices, retail prices, by-product prices and outlook. From this assessment alone, it will be apparent what are some of the changes required in the information system.

The paper presents information requirements of two categories of users - - those requiring market news for trading purposes, and those requiring outlook and interpretation information for planning. The approach utilized was a systems concept of decision-making points for those participants in the above two categories. Thus the additional information required by decision makers can be obtained from comparing the needs proposed and the type or availability of information outlined in the first part of the paper.

The paper also examines the existing data organizations and proposes alternative structures for the collection, analysis and dissemination of information.

#### Outline of Report

The following section describes the importance of the information systems for beef and outlines the objectives of an effective information system. The third section describes the statistical series now published by the federal government and the process by which they are collected. The fourth section evaluates the series according to the criteria established in part 2. The fifth section is a description of some of the information needs of individuals. The last section provides recommendation for changes.



## 2. THE ROLE OF THE MARKET INFORMATION SYSTEM

Beef marketing information consists of the marketing data relevant to present decisions taken by the private sector, including producers, processors, retailers and consumers relating to market transactions, production or consumption planning and investments, and by government in respect to policies or programs in the beef sector.

The quality and quantity of this information is an essential determinant of performance in the beef marketing system. It affects decision makers since it influences the competitiveness of transactions and the optimal allocation of resources employed in both the immediate and future periods. Therefore, any improvements in the information system serving a market should improve the competitiveness and the efficiency in the overall performance of that market.

In the beef industry, market information is particularly important since shifts in supply and demand tend to be frequent and at times very extensive. Moreover, the lag between the time when resources are committed and when production is realized may be many years, thus intensifying the need for good market information. Its value can be measured by an improvement in resource allocation and more equitable income to participants in commodity markets. Also, if participants take account of good market information, market performance will be improved by reducing short-run price and supply fluctuations, thereby enabling more uniform utilization of marketing services and facilities. In addition, governments policies and programs will benefit from information provided by a strong market information program.

Price functions as a signal indicating what quantities and qualities consumers desire from the producer, processor and storage stages of the marketing system. Providing decision makers with information about price in its various time, form and space dimensions is a function of the market information system. Market participants also use information on supply, level of market activity, product movements, etc. to supplement price data in their decision-making process.

Market information can be classified into two basic types:

- (a) market news which pertains to current market conditions, and
- (b) market analysis and outlook.

Market news is required by firms for transaction purposes assisting them in the very short-term decisions related to buying and selling in the appropriate time, place, form and quantity. For this type of information, speed of collection and dissemination is critical and data from as many different markets as possible need to be reported. Good market news enables all firms both large and small to transact sales at equal prices for equal quality (time, form and place characteristics) and forces prices for different qualities to be related to the costs of changing these products characteristics through storage, processing or transportation.

Market interpretation and outlook information is required to enable current decisions to result in optimal future transactions or to ensure that resources are allocated to produce future output with the most desirable time, form and place characteristics.

Market information is also used by researchers analyzing market structure and performance and developing new methods of forecasting demand and supply. It is also used by public decision makers for reviewing existing and formulating new policies and programs.

Beef market information is largely the responsibility of two federal departments, Statistics Canada and Agriculture Canada. The structure of these departments and their relative responsibilities are discussed below. These data agencies perform four basic functions:

- (a) collection of primary or raw data from market transactions or inventories;
- (b) processing of primary data into aggregate statistics;
- (c) analysis, manipulation and/or interpretation of the data, and
- (d) dissemination of the information to users.

The collection of primary data is fundamental since inadequacies at this stage cannot be rectified later. Beef data is collected via mail survey, field interviews and reports of regulatory agents as an adjunct to their primary function.

Processing of data involves collecting a large number of individual responses i.e., market transactions, firm responses, or counts of events, and aggregating these, using certain statistical methods to generate an industry value.

Manipulation, analysis and interpretation involves generating additional information from the basic or primary data. For example, number of cattle slaughtered may be combined with certain benchmarks to yield per capita consumption. Prices may be analyzed with the perspective of an historical sequence indicating current trend and cyclical movement. Events may be interpreted as a consequence of known historical relationships, such as a particular level of consumption could be expected given prices of beef and pork and consumer income.

Dissemination may be undertaken via several modes. Most common, however, is the printing press and the mail service. However, some beef information, particularly market news, is also disseminated through radio, newspapers, T.V., telex, facsimile, etc.

Providing basic market information for agriculture is best provided collectively (i.e., by a central agency) because it is more economical for one agency to collect, process and disseminate market information in a market characterized by a large number of firms and participants. Most small firms and individuals could not justify the high initial expenditure for market information and if everyone operated independently, they would not spend very much on market intelligence.

Moreover, the market information system has been funded by government, and, therefore, is financed by all taxpayers, because it is believed that all of the benefits of a good information system are not retained by the users but a significant benefit is realized by the consuming public through reduced marketing costs and more desirable products being produced. Also, government has the legal authority to obtain confidential information from individual firms. Governments also have a responsibility to ensure competitiveness in markets by providing small firms with equal access to information as large firms.

The objective of the data agencies is to provide the most valuable information possible. A major difficulty the agencies have in achieving this is that its product price (the value of information) is essentially unknown. While this information-producing entity may know precisely its input costs and the various coefficients associated with its production activities (collection, processing, dissemination), it is unable to determine with much accuracy what information should be produced, nor its degree of accuracy, timeliness, form, etc.

Two federal departments share the responsibility for providing beef information. Statistics Canada, as specified in Section 3 of the new Statistics Act (proclaimed May 1, 1971), clearly has the authority and responsibility to collect or supervise the collection of all statistics of all departments of federal and provincial governments, to prevent duplication of information collected, to advise all federal departments on collection, compilation and publication of statistical material, and to promote and develop an integrated set of economic statistics.

The Department is organized in six fields. Beef data is collected in two of these, in four branches and in six divisions. Beef data is often collected for further within-Department uses (e.g. national accounts), which may not necessarily be in the form most useful to beef industry decision makers. The Agriculture Division largely concentrates on periodic livestock and meat surveys. For other data, it simply obtains information from other sources for publication without any input as to type or method of data collection and processing. The Census Division runs the five-year Agricultural Census. Prices Division obtains retail and wholesale prices. The Trade Division obtains customs officials information on trade volumes and prices. The Manufacturing and Primary Industries Division obtains information on beef production. The Transportation and Communications Division obtains information on beef shipments.

As a result of many regulatory responsibilities, Agriculture Canada collects considerable information by means of its field staff. Prices and marketings at public stockyards and carcass gradings are obtained by Livestock Division staff. Slaughter and trade data are collected by Health of Animal Branch Veterinarians. In addition to this information, Markets Information Section collects carcass prices via a mailed questionnaire to packers.

The Economics Branch prepares and distributes market analysis and outlook information.



The objectives against which the adequacy of a beef market information system can be judged is whether it provides:

- (a) a clearly defineable and appropriate basis for statistics collected;
- (b) adequate information in terms of availability, completeness, timeliness, accuracy and comprehension;
- (c) dissemination of information in the form, media and time-frame most suitable to users;
- (d) continuous evaluation and revision in light of changing user needs, market structure and technology of collection, processing and dissemination of data; and
- (e) the optimal amount of information at a minimum supplier and user cost.

### 3. BEEF INDUSTRY STATISTICS - WHAT THEY ARE AND HOW THEY ARE COLLECTED

This section provides a comprehensive description of the statistical series published by the federal government on beef, their method of collection and form and frequency of dissemination. Ten types of data are covered.

#### Beef Prices

(i) Live Cattle Prices. Daily prices are collected by Agriculture Canada for live cattle and calf sales at nine public stockyards<sup>1</sup> for the following 28 categories.

- (a) four classes of steers and four classes of heifers (A1,2, A3, 4, B and C) with two weight classes for A1,2 steers (more than and less than 1,000 lb.) and two weight classes for A1,2 heifers (more than and less than 850 lb.);
- (b) three classes of cows (D1, 2, D3, D4);
- (c) Bulls (E);
- (d) three weight classes of good feeder steers (over 800 lb., 700-800 lb., 500-600 lb.);
- (e) three weight classes of good feeder heifers (over 700 lb., 600-700 lb., 500-600 lb.);
- (f) three weight categories of good steer calves (500-600 lb., 400-500 lb., under 400 lb.);
- (g) three weight categories of good heifer calves (400-500 lb., 300-400 lb., under 300 lb.);
- (h) three classes of slaughter calves (good veal, good butcher and common, all weights);
- (i) feeder cows.

The prices are reported as price ranges and are to cover "bulk of sales" or 80 percent of the transactions. The livestock reporter uses a combination of weigh scale ticket prices, trade contacts and visual inspection of sales to establish his estimate as to the range of prices for each of the above categories. The reporter estimates what the eventual carcass grade will be for the live animal in order to report live prices, by grade. A weekly price range is obtained encompassing the daily price ranges and from this a judgmental average price is taken as the weekly "average". These prices are reported monthly<sup>2</sup> and annually with the price being a weighted average of the weekly price. The weights are the terminal sales for those grades. These prices are reported in the following methods:

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<sup>1</sup> The nine public stockyards are located in Edmonton, Calgary, Lethbridge, Regina, Saskatoon, Prince Albert, Winnipeg, Toronto and Montreal. Prices are reported weekly for six of these markets (not for Lethbridge, Regina or Prince Albert).

<sup>2</sup> Monthly prices are reported for common-medium steers 600 lb. and over and under 600 lb. and for common-medium heifers 500 lb. and over and under 500 lb.

- (a) daily prices - radio, newspaper, telephone, facsimilie;
- (b) weekly prices are in Canada Livestock and Meat Trade Report;<sup>3</sup>
- (c) monthly prices are in Canada Livestock and Meat Trade Report;
- (d) annual prices are in Livestock Market Review and a subset of these are in Livestock and Animal Products Statistics.

(ii) Carcass Prices

Weekly carcass prices are collected by Agriculture Canada for seven regions in Canada for A1, A2, A3 and A4 steer carcasses (500-700 lb.) and for similar grades of heifer carcasses (450-550 lb.) and D2 cows. These are obtained from a weekly, voluntary, mail survey of 59 packing plants, all members of the Meat Packers Council. These firms provide average prices for Monday-Thursday sales to retailers. The Quebec region average, however, also includes carcass sales to wholesalers. These weekly categories are averaged (simple average) for annual prices and are reported in Livestock Market Review.

(iii) Other Beef Cattle Prices

U.S. prices at Omaha of choice steers and choice and good veal calves at St. Paul are also reported weekly and annually in the same manner as live Canadian prices.

An industrial selling price index for sales from packing plants for beef and veal is obtained through a mail survey by Statistics Canada and reported monthly in Prices and Price Indexes.

(iv) Retail Beef Prices

Retail beef prices are collected monthly by Statistics Canada for six retail cuts in centres across Canada. These are taken during the week encompassing the first Friday in the month. The cuts are: sirloin steak, round steak (boneless), prime rib roast, blade roast, blade bone-in, stewing beef, hamburger. These cuts are reported as price indexes (since September 1971) and disseminated in Prices and Price Indexes monthly and Livestock and Animal Products Statistics annually.

Marketings and Interprovincial Movements

(i) Through Stockyards

Receipts of cattle and calves at the nine public stockyards are recorded weekly, monthly and annually. Sales by grade, using the same categories as in daily prices, are reported monthly and annually, as are sales by origin from a crop reporting district. The latter are broken down by grade annually. Sales from public stockyards for feeding, slaughter,

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<sup>3</sup> Complete references are found on pages 32 and 33

export or to other terminals are reported weekly. These data are obtained by Agriculture Canada and reported similarly to livestock price data.

(ii) To Packing Plants

Total slaughter of cattle and calves is reported weekly, by province, for federally inspected plants. These slaughterings are also reported monthly by sex. Average carcass weights have recently been obtained by plant surveys and reported weekly, by sex. A complete enumeration is reported on a monthly basis but is on average carcass weight for all cattle. These data are obtained by federal health inspectors in packing plants. Gradings, for each official grade, are reported weekly for all carcasses graded in provincially and federally inspected plants. Receipts at plants from public markets and all other sources are recorded weekly. All of the above are reported in Canada Livestock and Meat Trade Report and Canada Livestock and Meat Trade Report, Monthly Supplement.

Cattle and calf slaughter at provincially inspected and uninspected plants is obtained by mailed survey from Statistics Canada, quarterly (monthly in Ontario, B.C., Alberta and P.E.I.). Farm slaughter is obtained by Statistics Canada in a semi-annual mailed survey of producers and included in aggregate production statistics reported in Livestock and Animal Products Statistics.

(iii) Interprovincial Shipments (live)

Shipments of slaughter cattle and calves from one province to stockyards or packing plants in another province are reported monthly and annually. These are obtained from market reporters at stockyards and graders at packing plants. Also reported daily and monthly, are rail movements of cattle and calves from Winnipeg and points west, to Ontario, Quebec and the Maritimes, broken down by each of these destinations for slaughter, finishing, and sale at stockyards (largely for finishing). These data are obtained from the two railroads. Both of these series are reported similarly to live cattle prices - - in facsimilie (daily), Canada Livestock and Meat Trade Report, Monthly supplement and Livestock Market Review.

(iv) Beef Shipments from Plants

Statistics Canada obtains monthly volume of shipments from meat slaughtering and processing plants for the following beef categories:

Fresh and frozen

- (a) beef
  - (b) beef-portion ready
  - (c) beef-block ready
  - (d) ground beef and hamburger
  - (e) steakettes, patties, etc.
  - (f) veal.
- Sweet Pickled or Dry Salted Beef  
Smoked beef.



Slaughtering (number of head and purchase value) of owned and custom killed cattle and purchases of dressed beef and veal, are also reported. These data are collected by a mailed survey of plants and published monthly in Selected Meat and Meat Preparations and annually in Slaughtering and Meat Processors.

Trade

(i) Livestock

Weekly and annual numbers of head of livestock exported to the U.S. from Western and Eastern Canada are reported by Agriculture Canada for categories of:

- Slaughter and feeding:
  - feeder or slaughter - more than 700 lb.
  - 200-700 lb.
- Breeding:
  - grade or purebred - dairy females
  - dairy bulls
  - beef females
  - beef bulls
- Calves for immediate slaughter.

Weekly and annual numbers of head of livestock imported for U.S. for slaughter or feeding for both cattle and calves, by province, are reported in Canada Livestock and Meat Trade Report and Livestock Market Review. These data are obtained from carcass graders at packing plants for slaughter cattle and from veterinarians at customs check points for feeder cattle imports and from health of animals certificates for exports.

Statistics Canada reports another set of monthly data for live cattle and calf exports, for all of Canada, for the number and value of livestock for each country for the following categories:

- (i) dairy purebred
- (ii) Not Elsewhere Specified (NES) purebred
- (iii) dairy NES, 200 lb and more
- (iv) dairy NES, less than 200 lb.
- (v) NES less than 200 lb.
- (vi) NES 200-450 lb.
- (vii) NES 451-700 lb.
- (viii) NES more than 700 lb.

For imports, only (i) and (ii) above are reported and a category for all other (iii) NES cattle. These documents are recorded when they are received at Statistics Canada (i.e. if delays occur in the collection or mailing of export documents, this affects the statistics). Export entries define the valuation as f.o.b. place of lading (i.e. exclusive of inland freight, insurance, handling, etc.) and are reported in Canadian



dollars. Similarly, import statistics for any month are recorded as received at Statistics Canada. There is a lapse of up to a week between the actual customs clearance of imports and receipt of the relevant documents in Statistics Canada. Imports are credited to the country from which goods are consigned to Canada, except for goods produced in Central or South America but first consigned to Canada from the U.S., which are credited to the country of origin. The Canadian Customs Act generally requires the valuation of good f.o.b. point of shipment. Since January 1975 imports from the U.S. valued at less than \$2,500 have been obtained by a 10 percent sample. Exports are published in Trade of Canada - Exports by Commodity and imports in Trade of Canada - Imports by Commodity.

(ii) Beef and Veal

Agriculture Canada reports weekly and annual dressed beef and veal imports from the U.S. and from all countries for both beef and veal in the following categories:

- (a) bone-in carcasses
- (b) bone-in cuts
- (c) boneless
- (d) trimmings

and for beef only:

- (a) pickled and cured
- (b) cooked
- (c) canned.

Beef and veal exports to the U.S. and to all countries are reported weekly and annually for the same categories as above. These data are collected by federal meat inspectors at packing plants. They are reported in Canada Livestock and Meat Trade Report for weekly and Livestock Market Review for annual data.

Statistics Canada monthly data is also reported for Canadian beef and veal exports and imports with each trading country for the following export categories:

- (i) beef fresh or chilled, boneless
- (ii) beef frozen, boneless
- (iii) veal fresh or frozen, boneless
- (iv) beef fresh or frozen, NES
- (v) veal fresh or frozen, NES
- (vi) beef cured

for imports, (iii) and (v) are combined and canned corned beef and canned beef and veal NES are added. These are collected in a similar manner to the live cattle trade reported by Statistics Canada described above. They are reported in Trade of Canada - Imports by Commodity and Trade of Canada - Exports by Commodity. Trade in by-products is discussed below on page 13.

### Inventories of Livestock on Farms

Numbers of livestock on farms are reported semi-annually, by province for the following categories:

- (i) calves (less than one year old)
- (ii) beef heifers for replacement (one to two years old)<sup>4</sup>
- (iii) beef heifers for feeding (one to two years old)<sup>4</sup>
- (iv) steers (one year old and over)
- (v) dairy heifers for replacement (one to two years old)
- (vi) dairy cows and heifers (more than two years old)
- (vii) beef cows and heifers (more than two years old)
- (viii) bulls (one year old and over)
- (ix) cattle on feed<sup>4</sup>

All cattle pastured or fed on contract are included as numbers on that farm.

These data are obtained by a semi-annual mailed survey of producers, as well as the five year census. The semi-annual questionnaires are edited by the Agriculture Division, Statistics Canada. The questionnaires are compared with the previous ones from the same farmers in the July and January surveys. To arrive at the estimations of numbers on farms, this sample questionnaire pairings are used to obtain a paired change ratio which is estimated as a percentage change from the Census statistics of the most recent year. These aggregate data are then adjusted through an accounting type analysis whereby a supply-disposition balance sheet method is used to equate livestock numbers, output, disposition per capita and weights of beef. There is a residual element in the balance sheet analysis and the accuracy criterion is to get the residual within five percent of the output of beef. The anchor point of the balance sheet estimation procedure hinges on the livestock marketings (slaughter) report by Agriculture Canada. These estimates are then forwarded to the provincial government livestock personnel who review their provincial estimates and propose any changes. These changes are then reviewed by the Agriculture Division of Statistics Canada and are released to the public in Report on Livestock Surveys and annually in Livestock and Animal Products Statistics.

There are also a number of detailed cross-classifications reported from census data, as well as small area breakdowns. These are published in Census Data: Livestock, Cattle.

### Beef and Veal Stocks in Storage

Stocks of beef and veal, bone-in and boneless, and fancy meats, beef and veal are reported monthly in Stocks of Frozen Meat Products. Since 1967 only frozen stocks are included.

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<sup>4</sup> Data are reported only for Prairie provinces and Ontario.

Firms are required to report all stocks in their own establishment or in specially rented rooms elsewhere as at the opening of the first business day of the month. By special arrangement, the larger meat packers report total meat inventories regardless of where held and are also permitted to submit figures of their period-end inventory provided it has been taken within three days prior to the month-end.

#### Consumption

Domestic disappearance of beef, or commonly called consumption, is reported in cold carcass equivalent weights. To obtain this value, the following procedure is used.

The average hot carcass weight for federally inspected cattle slaughter is reduced by a three percent shrinkage to give an average cold carcass dressed weight. Then 4.5 pounds are added for head meat recovery. Total production is estimated by multiplying the average cold carcass weight by the total number slaughtered, which includes inspected, uninspected and farm slaughter. It is assumed that there is no weight difference between federally inspected and all other cattle.

For calves, the average hot carcass weight for inspected slaughter is reduced by 15 percent shrinkage (allowance for hide and offal) to give a cold dressed weight. Another 0.5 pounds is subtracted to allow for kidney removal and 0.8 pounds is added to allow for head meat recovery. Total veal production is obtained by multiplying the average cold carcass weight by the total federally inspected and other calf slaughter numbers. Again, it is assumed that there is no weight difference between federally inspected and other calves.

This total production value is adjusted for exports, imports and changes in beef stocks to obtain domestic disappearance.

This value is reported in Estimates of Production and Disappearance of Meat.

#### By-Products

Prices of selected by-products are reported monthly. Prices for three grades of hides are reported in Livestock and Animal Products Statistics and price indices for three types of industry selling prices for leather are reported in Raw Hides, Skins and Finished Leather. In the latter, price indices for inedible animal fats and tallow and tankhouse production are also reported.

Receipts and stocks of raw cattle hides from domestic and imported sources and production, deliveries and stocks of finished leather for 10 categories are reported monthly in Raw Hides, Skins and Finished Leather. Total sales are reported annually in Livestock and Animal Products Statistics.

Exports and imports of cattle hides and of 8 classes of leather are reported monthly in Trade of Canada - Imports by Commodity and Trade of Canada - Exports by Commodity and annually for all cattle hides in Livestock and Animal Products Statistics. Also two types of fancy meat trade is reported in Trade of Canada - Imports by Commodity and Trade of Canada - Exports by Commodity.

### Outlook

The main source of commodity outlook material is the annual Agriculture Canada Outlook Conference proceedings and its within-year reports, Canadian Agricultural Outlook Conference Report. For beef, the Outlook statement contains a short-run forecast of anticipated fed cattle marketings and prices for the coming few months. These are prepared through a qualitative assessment of current inventory positions for various classes of beef, and an interpretation of the implications for Canada of the U.S. outlook forecasts.

Few long-run forecasts of supply, demand, prices and trade for beef have been published by the Federal government. A recent one by Yankowsky, Canadian Agriculture in the Seventies, was derived from a formal quantitative model with an econometric base, and assumed values of exogeneous or independent variables.



#### 4. GENERAL ASSESSMENT OF BEEF DATA

This part contains an analysis of the data series obtained in the previous part outlining the objectives specified in part two.

##### Live Price Data

The method used to collect and assemble these data from public stockyards depends to a great extent on the judgment of the market reporter and as a result lacks a scientific base, preventing any measure of statistical reliability. This reduces its value for analytical purposes. Moreover, the method used to obtain reported average prices may differ rather substantially between markets, so much so that in some cases regional price comparisons are meaningless.

Market reporters report prices by grade, based on expectations as to how the animal's carcass will grade. There is no consistent verification on the accuracy of the estimated live prices compared to the actual grades. A research study of the Commission made a comparison of this nature.<sup>5</sup> Prices were obtained on lots of cattle for all sales on five market days, at the Toronto Public Stockyards. These lots were followed through to packing plants and actual grades were obtained. For A1 steers and heifers, a price range encompassing 80 percent of the cattle sold was estimated. A comparison of this price range was made with the market reporters estimate for that day. The deviations from the low and high ends of the range were calculated. The results are shown in Appendix Table 1.

In general, it was found that the market reporter estimated too small a range. This was true for all cases except heifers on July 25. The deviations from the low and high end of the reporters estimated range were often quite small. In more than one half of the cases, the differences were less than \$1/cwt. On the other hand, in nearly one fifth of the cases, the deviations exceeded \$2/cwt. For A1 steers, both the low and high ends of the range were generally too low. For heifers, however, while the range was too narrow there was not a consistent bias.

Steers and heifers grading B and C have an extremely broad range in the live price reported, as they are combined into one category called common. Price ranges are often \$20-\$25/cwt., (i.e. between the high and the low price) making the averages reported for common cattle almost meaningless as a slight change in composition could alter average price without prices having changed.

The almost exclusive source of live price quotes are the terminal markets, which are becoming an increasingly smaller percentage of the total slaughter market. In 1955, terminal markets handled a volume equivalent to 58 percent of inspected slaughter. In 1974, it was 33 percent. In Alberta, however, only 19 percent was accounted for by terminal outlets. Markets like Lethbridge with less than 2,400 annual fed cattle (A grade) sales in 1974 and even Edmonton, Regina, Saskatoon, Prince Albert and Montreal, all with less than 30,000 head of fed cattle in 1974 are becoming very marginal fed beef markets. The quality and yield of many

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<sup>5</sup> Commission of Inquiry into the Marketing of Beef, Research Report No. 3., A Comparison of Live Cattle prices and Carcass Costs, (Ottawa, Information Canada, February 1976).



of the cattle sold on these markets is such that quoted live prices are quite low.<sup>6</sup> Thus, if producers are selling on formula basis or even comparing prices in another market with these terminal market prices, this has a depressing affect on the entire market. Consequently, some additional factors could be incorporated in the price quotes. One important criterion would be an estimated dressing percentage. Moreover, as fewer cattle are sold through the markets, fewer buyers use that as a major source of supply and thus prices may decline through the lack of competition.

Another important limitation in live price reporting relates to the lack of any published definitions or glossary of terms used. Most prices reported are not clearly defined as to the type of animal on which it is based. For example, prices of light heifers or heavy steers may not be included in the "average" price, by the reporter, since in his opinion they could distort the representative A1,2 price. Thus, the market reporter selects the specifications for weight range to report and these are not made explicit to market information users. Similarly, definitions for reported prices of veal calves are not specified to users and obviously differ substantially among markets. For example, the week ending July 12, 1975, the Toronto price was \$16.85/cwt. lower than Montreal, yet the flow of calves was from Montreal to Toronto. Such apparent reporting discrepancies, unfortunately cast an aura of distrust over all data collected.

Feeder cattle and calf prices include prices for all types of feeders, in broadly specified weight ranges. Quality grading by market reporters would more precisely define the specifications of the animal quoted and hence make price quotes more meaningful.

Modes used for information dissemination appear oblivious to the needs of users. Much of the data has a one to two week lag rendering it irrelevant to trading requirements of the market. Information distributed for market news, via radio and newspapers is as useful to-day as it was 20 years ago, but fails to exploit the innovations in communications technology during the past two decades. Recent moves by Agriculture Canada to disseminate daily prices more rapidly have not been very effective. Daily reports by facsimile have very limited circulation and the telephone number for a taped message is not longer published.

#### Carcass Price Data

These prices are obtained from a voluntary survey of selected plants. There is no verification of data (e.g. from buyers). While respondents are requested to supply sales to retailers, this could vary

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The Edmonton A1 price is consistently \$2-\$3/cwt. below Calgary largely because of quality differences and small lots of cattle.

substantially between a major chain and a small independent corner store distant from population centres. One alternative would be to limit quotes to minimum sized lots.

Quebec area quotes contain a mixture of sales to wholesalers and retailers. It is acknowledged that there is generally a \$3/cwt. difference between wholesale and retail prices. A 104-week test taking the Montreal wholesale prices as quoted by brokerage firms less the Agriculture Canada bluebook values showed a weekly deviation ranging from -\$4.85 to \$2.25 and an average of -\$1.19/cwt. for A1 steers. The majority (76) of the differences were \$0 to -\$2/cwt. Nevertheless, 14 were positive. For A3 steers, the values were within \$0.75/cwt. on the average and the weekly price difference ranged from -\$3.83 to \$1.50/cwt. For A4, however, while the average difference was -\$1.09/cwt., the weekly price differences ranged from -\$4.81 to \$5.12/cwt. For D2 cows, the average difference was -\$1.47 and the range was -\$4.50 to \$3.17/cwt.<sup>7</sup> The variability of the Agriculture Canada prices about the quoted wholesale price appears to reduce the reliability that can be placed on it.

The carcass price data have virtually no value for market news as they are reported up to 11 days after transactions and the weekly report is likely received at least two weeks after some of the transactions have occurred.

Carcass prices are not reported for B and C grades or D1, 3 or 4, which among other things prohibits any monitoring of price spreads for these grades.

#### Retail Prices

The retail prices reported by Statistics Canada are inadequate to provide a calculation of wholesale to retail price spreads, since only six prices are used and they are published as an index, not an absolute price. Therefore, a more complete set of retail cuts should be reported and reported more quickly, if this function is to be performed on an ongoing basis by government. A more accurate average retail price would require weighting prices at retail to account for increased consumption of beef cuts when advertised specials exist. The data, as currently published, are of no value for market news to consumers, as they are published four to five weeks after collection. Often, they report trends converse to the current market situation because of this lag.

#### Marketing Data

The data reported are usually very accurate but unfortunately consist of only part of all livestock marketings. For example, information is collected on stockyards and federally inspected slaughter. The proportion of total livestock counted in these manners varies, making

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<sup>7</sup> These data are available from the author, on request.

any analysis of the total industry rather unsatisfactory. Equally important is the lack of any consistency in definitions at various market levels. Different characteristics are recorded on livestock inventories, marketings, slaughter, interprovincial movement and trade. For example, farm inventories of cattle and calves are obtained semi-annually and categorized by age, sex, type (beef/dairy), purpose (replacement/other), and location. Trade is given by weight and type. Slaughterings for federally inspected plants are reported by sex and location and uninspected by location only. The latter is also much less accurate than the former. Interprovincial movements are partially recorded for broad age, and purpose categories. Thus a systems analysis of the beef industry is a difficult exercise.

Total industry estimates should receive more priority as well as consistency of definitions. In one area, marketings of auctions and inter-farm sales from brand inspection data could quite easily be obtained.

#### Trade Data

Two federal agencies collect and report quite different categories. Of concern to users is that the total volumes are often very different, making either or both suspect as to their reliability. An investigation should be made as to why these discrepancies exist and whether a reconciliation can be made. It is also questionable whether two agencies both should be collecting and disseminating information on livestock trade.

#### Inventories of Numbers of Farms

Despite the substantial change in agriculture, the basic unit for reporting remains the owner-operator farm. Growth in feed-lots, some of which are corporate owned or operated on a custom basis do not comply with this type of reporting unit. An important dimension in the structure of agriculture and extent of producer bargaining power is increasing concentration, or the percentage of sales accounted for by large firms. Attempts to obtain data on this characteristic of beef farms are exceedingly difficult.

Accuracy of estimates between census years is unknown. However, substantial revisions occur when census data are obtained. After each census, the previous five years are revised. This is done on the basis of the livestock population obtained by that census and a reconstruction of the historical series through the supply-disappearance balance sheet that now has been altered. A review of these revisions is shown in Appendix Table 2, comparing the original and revised data for 1951-71. 1971 is the latest census year and hence the latest revision. For total cattle and calves, the revisions have ranged from 1-4 percent, except for 1951, when it was 11 percent. Beef cows were not reported as a separate category until 1956 and since then revisions as a result of census data have ranged from 1 to 7 percent.

For steers, revisions have been from 1 to 9 percent and for yearling beef heifers, they have been from 1 to 11 percent. For calves, revisions have been 2 to 4 percent. Recently, Ontario through special field studies has estimated approximately 7 percent of its dairy cows (48,000) in 1971 should have been classified as beef cows.

Response rates on the mailed semi-annual survey is approximately 20 percent. Very limited non-response bias tests are conducted to determine whether there is any statistical bias in the sample data obtained.<sup>8</sup> It would appear that a pre-selected sample for personal interviews is a requirement for an improved survey. This would enable an estimate of the statistical reliability of the results and thereby permit a calculation of the trade-off between increased data accuracy and additional survey costs.

The cattle on feed survey is an essential industry barometer of short-run marketing. This statistic needs to be obtained with considerably more reliability, and expanded to include all provinces.

#### Disappearance Data

This statistic is one of the most frequently used measures of the performance of the beef industry. Since there is considerable value placed on it, this necessitates some refinements in its mode of calculation from the very crude method now used, particularly in reference to such items as nonfederally inspected slaughter, beef trade, losses in the system, etc. More frequent estimation is also desirable. The benchmark weights used to obtain its value are those derived nearly 15 years ago and require updating to account for changes in the type of cattle produced. Perhaps a more important modification is needed for the change in the form in which beef is traded in the various export and import categories of Statistics Canada.

To obtain a complete regional supply-demand balances, disappearance estimates are required regionally.

#### By-Products Data

The use of by-product prices in calculating farm to wholesale price spreads is essential for a continuous industry performance monitoring role. Therefore, additional and more detailed prices on types of by-products and from more markets need to be collected. Faster dissemination

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Checks are made to see if farm size distribution of the sample conforms to the census size distribution.



of prices would likely enable meat packers to adjust their buying and selling prices to maintain more uniform price spreads.<sup>9</sup>

#### Farm Income Data

The need for the duplication of price information obtained directly from producers by Statistics Canada for this purpose of calculating gross income is questionable. Moreover, prices received in this manner are probably not very accurate.

#### Outlook Data

The information for the beef industry is not comprehensive enough and too qualitative, concentrating on short-run projections (less than one year). More detailed, more frequent and intermediate to long-run projections need to be undertaken. Price projections generally relate to A1 steers only, with basically only the general direction given. Publications have a set schedule only for the Annual Conference, and only one to two within-year forecasts are made.

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<sup>9</sup> Commission of Inquiry into the Marketing of Beef, Research Report No. 2, Farm to Retail Price Spreads, (Ottawa, Information Canada February 1976).



## 5. MARKET INFORMATION REQUIREMENTS OF BEEF INDUSTRY DECISION MAKERS

The market information needs are similar for most individuals within a particular segment of the production-marketing system and in fact there is a very substantial overlap among entire segments of the industry. Nevertheless each individual may have unique needs.

The aim of this section is to indicate some of the major decisions faced by the various segments within the beef industry which require the use of price and marketings data. There is no pretense that the list is exhaustive. Nevertheless, it is intended to be sufficiently comprehensive to indicate the major or broad changes required in market information programs. From this directional indication, more specific definitions of variables would need to be developed by the agency responsible. Thus, the approach taken in the next sections is to describe a number of decisions by firms, summarize the type of data required, compare this with the available data described in Part 3 and propose the major changes in market information required.

The following discussions relate almost exclusively to beef price and marketings data. This does not imply that input prices and marketings, technical information and alternative product data are not important in decision making; it is merely to focus attention on beef industry data. Obviously, important input prices like those for feed-grains are required along with beef price data, but , this section does not outline the type and extent of those data.

### Cow-Calf Producers

The cow-calf producer must make a number of decisions regarding selling, feeding and breeding. As soon as a calf is born, a decision must be made as to whether to veal it or raise it to a weaned weight of 300-400 lb. for beef purposes. This decision requires information on the price of veal calves relative to expected feeder calf prices in six months. When the calf is weaned, other decisions must be made using market prices. The calf may be sold for growing and finishing or kept for an addition to the breeding stock (if it is a heifer) or kept to be grown to a yearling feeder. These decisions rely to a large extent on the current and projected future calf prices and the forecast price for next year's feeder cattle. If the calf is to be sold, decisions as to where, when and how to sell it must be made. Options of private treaty sales to local farmers or feedlots, local auctions, public terminals or dealers must be considered and price comparisons are required to assist in the selection. Timing is also important as short-term price fluctuations can be substantial. The decision to grow an animal to a yearling must relate to the profitability of using resources to feed that animal to its increased future value. A decision to retain females for replacement or expansion of the herd is based on the discounted present value of the expected future revenue from calves produced by that female, a normal capital investment problem. A similar decision takes place in the culling of cows. A decision to cull implies a salvage value (market price for cows)

which exceeds its future production value as a producer of calves. Also a cull cow may be fed to give it additional value through weight and grade increases and relative prices of grades and the value of additional weight must be compared to its cost of feeding. If the cow-calf producer decides to grow the calf to a heavier weight, a decision to sell still could be made at any point, based on similar considerations of timing and market selection as described for weaned calf dispositions.

Thus, the cow-calf producers require market prices for all weights of feeder calves and cattle and for slaughter cows at each of the alternative markets available to them. These are both current prices (i.e. market news) and short-term outlook (up to one year) prices. Longer-term price outlook is required for deciding to retain heifer calves, as two to three years will elapse before their first offspring will be sold. Even longer-term price outlook information is required by producers in their decisions as whether or not to continue production.

In order to make decisions the price information must relate to a precisely defined animal to which the producer can relate his animal. Differences in sex, weight, breed, condition and fill can be extremely important factors in affecting prices. Therefore, satisfactory categories must be established upon which to report prices. This would appear to necessitate feeder cattle grades in addition to weight classes.

The most important additional market information requirement for cow-calf producers appear to be:

- (a) substantial improvement in the frequency, scope and quality of short- (zero to one year) and intermediate- (two to three years) term price forecasting for feeder cattle and slaughter cows;
- (b) more extensive reporting of feeder cattle sales (especially auction markets) than simply terminal markets, and
- (c) the development of an acceptable set of grades for reporting of feeder cattle prices.

#### Feedlot Operators

Decisions of feedlot operators are more complex than those of the cow-calf producers since feedlots are involved in both buying and selling considerations, coupled with a business whose nature is based on a high volume, rapid turnover and a low per unit profit.

In the purchase of feeders, the operator must decide when to buy (season, week, day), where to buy (geographic location, type of market), the number to purchase and the type of cattle (weight, finish, breed). These considerations require prices of all weights of feeder cattle, in all regions and types of markets accessible to

the buyer. It also requires an estimate of the future selling price of various types of slaughter animals to enable a decision as to the most appropriate type and an assessment of maximum price the producer can afford to pay (and cover all variable costs). Also, availability of feeder cattle supply is important information. For example, most calves in Western Canada are born in the spring and weaned in the fall making the greatest selection available at that time. Certainly, feed input costs are an important factor not only for the above considerations but also to assist in the decision of the optimal rates of gain and the selling weights. These decisions as well as those related to selling also involve questions of timing, method and location, in addition to weight and degree of finish. Current and short-run outlook price data are required to assist in the above decisions. Short-run supply variations have sizeable effects on prices, therefore, information on daily marketings is also important.

Thus, the types of beef market data required by feedlot operators are feeder prices for all weights (and grades) at each market or location. Also current market and short-term outlook data are required for slaughter cattle prices. This is required for all grades of slaughter steers and heifers at each market location. Short-term supplies of marketings of feeder and slaughter cattle are also desired. Long-term price outlook information is required for investment decisions.

The additional requirements of the market information system would appear to be:

- (a) substantial improvement in the scope, frequency and accuracy of short-term price forecasting, for feeder and particularly slaughter cattle;
- (b) collection and reporting of price and marketings information from a broader number of markets where feeder and slaughter cattle are sold;
- (c) an improved method of reporting representative prices of estimated grades of live feeder and slaughter animals;
- (d) an acceleration of the dissemination and availability of market news to users.

#### Meat Packers

Adequate market news is a most critical aspect of meat packing firms, as they operate on extremely small per unit margins and rapid turnover of products. Their decision must be made quickly and frequently modified because of the large number and complexity of options available to them. Some of the more important of these will be listed below.

To decide on where, when, number and type of cattle to purchase, packers need to know prices of cattle at the various markets, for all grades, weights and sex. These prices are required to ensure that purchases are from the lowest price(cost) market as even small errors

on a consistent basis would be sufficient to make their business unprofitable. Moreover, they are in an excellent position to ensure prices are uniform in all markets. In order to set maximum offer prices for purchases of live cattle and the number to purchase, packers must be aware of current prices for various grades and sex of carcasses and also the price for the coming week.

At the same time, packers must know the current value of by-products to determine profitability and to adjust bid prices for live cattle and offer prices for carcasses. In the short-run, plants will continue to operate if variable or direct costs are covered. However, since labour costs are fixed in the short-run because of labour contracts, plants are forced to maintain purchases despite an unprofitable situation. However, optimum levels of purchase will depend on volume available, price spreads for livestock and the production level at which they are currently operating. Predicted level of retail demand is also important to packers. If retailers are planning a promotion of beef, demand will be higher.

Short-run forecasts of live cattle marketings allow packers to adjust smoothly to a new level of operating. Minor adjustments to increase production can take place by increasing number of employees or working overtime. Substantial changes require additional shifts, which necessitate training and other labour administrative problems. Decreases in production are slower because of layoff provisions in the labour contracts.

Thus, the most important aspects of market information for packers is market news on prices and volumes of slaughter cattle and carcasses, for all weights and grades and short-term outlook for cattle volume. For large multi-plant packers, their needs for markets news are largely handled internally, as their buyers operate on most markets and are frequently making offers and purchasing cattle. Some smaller firms, however, may not be able to cover all markets in all regions and hence public market news may be a very important means of competing with large firms.

The basic improvements required in market information for meat packers appear to be:

- (a) an accelerated collection and dissemination of prices for a more extensive set of live cattle markets;
- (b) a more precise reporting system for representative prices, and
- (c) improved, more frequent, short-term forecasts for the short-run supply of live cattle.



### Wholesalers 10

As in the meat packer segment, beef wholesaling involves a rapid turnover operation with small margins. Hence, even minor errors in prices paid or received can be quite costly.

Wholesalers need to know volume of cattle slaughtered, its composition and location to gauge the type and volume of product that will be offered and hence whether new or additional markets should be sought or discouraged. The current market prices being offered by packers for various grades are required as well as prices that are being charged to retailers, so that each firm can remain competitive. It is very important to know current price and demand in the very volatile cuts markets to decide the number of carcasses to be broken into cuts. Expected demand by clients (retailers and purveyors) are required to estimate volume to be purchased from packers.

A considerable part of the wholesalers volume is purchased through brokers, and as a result, they provide much of the market information function for the wholesale market. Consequently, wholesalers are probably quite satisfied with prices obtained via the market information system. However, an improved public information system for carcasses could eliminate part of the need for brokers. The main improvement to assist wholesalers' decisions-making process would relate to faster market news on volumes being slaughtered and a live price translated into a carcass equivalent price.

### Retailers

The retailer is faced with decisions as to what the weekly consumer demand is likely to be and hence the quantity that is likely to be sold at various prices. Moreover, their promotions may require extra primal cuts for which specific arrangements and price negotiations must be made with suppliers. In addition, since the retailer must remain price competitive with other retailers, he must be aware of retail prices for each cut they are currently or likely to charge and possible promotions. These are some of the questions relating to demand considerations. He also must be aware of the quantities, qualities and prices for the forthcoming beef supplies in order to gauge most effective pricing, advertising and promotional programs. Increased public price information on wholesale carcass and cuts prices may decrease marketing costs as the need to buy from, or at least bargain with, several firms to insure competitiveness of price may not be present. Formula pricing could become more prevalent with retailers.

Thus, the retailer would like additional information on the current and short-run forecasts of prices and supply as well as short-run forecasts of consumer demand.

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10 The selling function of meat packers is similar to that of wholesalers and thus their needs are considered together.

### Consumers

Consumers are faced with a decision as to the type of protein source to purchase to meet the nutritional, psychological and varietal requirements of their diet, subject to their income constraints. Moreover, they are concerned with the location for purchases (lowest price for equal quality) to best satisfy the above described decisions. Therefore they require prices for beef cuts (and other protein sources) at local shopping outlets. Their main source of comparative price information is currently food ads or store visits. Additional independent sources of price reporting for the current week would be valuable, as it has been shown that prices for individual cuts vary considerably between stores.<sup>11</sup>

In addition, an increasing number of consumers own home freezers and bulk beef buying is common. They need comparison costs of purchasing a carcass, side or quarter versus the equivalent cuts sold at the retail level. Short-run forecasts of the latter is also important as these purchases can be spread over several months.

### Marketing Services Suppliers (Auctions, Brokers, Transporters, etc.)

These firms normally do not take possession of the product and hence are not generally concerned with price variations,<sup>12</sup> but simply fluctuations in volume. Therefore, these types of firms are most interested in the current and short-term outlook for supplies to be marketed so that the best schedule for resources required can be made.

In some cases, these firms stand prepared to accept all volume produced and therefore, must have adequate capacity for all possible requests. If there are short-run alternative uses of those resources which could employ their excess capacity elsewhere when beef production is low, then to be able to adjust accordingly would maximize their profit. For example, refrigerated rail cars and trucks can be used for a number of products, or additional labour in supplying marketing services can be used in other areas.

Therefore, improvements in the short-term forecasts of supply are most essential to these types of firms.

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<sup>11</sup> Commission of Inquiry into the Marketing of Beef, Research Report No. 5, An Economic Analysis of Beef Pricing and Newspaper Advertising in Toronto, (Ottawa: Information Canada, February 1976)

<sup>12</sup> An exception might be where fees relate to a percentage of price and price fluctuations, therefore, have an impact on income.

### Analysts

Two main purposes of an analyst's work are the structure, conduct and performance appraisal of a market and the estimation of industry economic relationships. Both of these purposes require some fundamental changes in the beef data collected so that more meaningful results can be provided.

Policy makers need to have a means of continuously monitoring the performance of an important sector such as the beef industry. These "performance indicators" should clearly indicate a satisfactory state or flag an unsatisfactory one. The existing indicators are very crude. Some examples of minimum necessary indicators are described below.

Measures of actual beef consumption are needed monthly, indicating the quality of beef consumed (e.g. fed/nonfed) and the consumption outlet (retail store vs HRI firm). The accuracy of the benchmarks now employed to obtain consumption data should be reviewed. Moreover, it might be desirable to express consumption in terms of weight of retail cuts rather than carcass equivalent.

Another performance indicator is stability of both prices and production. As a minimum, weekly percentage changes in these variables as well as deviations from normal (e.g. seasonally adjusted) need to be readily available in an easily comprehensible form.

A third example performance indicator is price spreads, that is price difference between levels in the marketing system for equivalent amounts of product. A farm to wholesale and wholesale to retail price spread should be available on a weekly basis. This would require calculations of the value of beef at farm, wholesale and retail.

A further performance indicator is price differences. These differences would be obtained between regions, grades and sexes. For example, if regional price differences substantially exceeded transfer cost or prices between qualities exceed their retail value, then this would indicate that the market performance may not be totally satisfactory.

Changes in the product flows between regions could indicate changes in competitive position or changes in market conduct or effectiveness, requiring some closer examination. Analysts performing an industry modelling role to assist in development of qualitative tools for policy analysis or forecasting are hampered by a lack of accuracy of data collected, incompleteness of collection, and inconsistency of definition among various economic variables obtained. Examples of these were outlined above. Therefore, to use the existing published quantity data of livestock production, marketings, trade and consumption into a systems concept is next to impossible. This is the result of several agencies being involved, each with unique purposes of collecting information. Establishing a consistent definition as to the type of data collected as shipments from plants, imports and receipts at the retail level is important to provide any meaningful analysis of the beef industry. Similarly, price data are also required for each quantity statistic collected.

## 6. SUMMARY AND CONCLUSIONS

The beef industry is one of the few commodities in Canada operating in a competitive environment (i.e. without a compulsory marketing board). For a competitive market to operate effectively, all participants must have an equal access to complete and timely market information. If a free market for beef is to continue, one of the most basic requirements to improve its effectiveness is a major overhaul in the market information system.

While considerable data are available, there are problems of timeliness, accuracy, consistency and completeness, in all of the functions performed by the data agencies, to satisfy the basic requirements of users. To provide the industry with the necessary level of quality, considerably more resources must be devoted to the basic research and development of user needs, the statistical and methodological basis for collection and analysis, and exploitation of new modes of more rapid dissemination.

Notwithstanding the above, there appears to be considerable latitude for private agencies to provide market news, outlook, or firm counselling. These firms should be encouraged and possibly assisted in their initial stages. It remains a public responsibility, however, to ensure all participants have access to a minimum level of market information to ensure competitiveness, to reduce barriers to entry and to provide correct market signals.

The federal government must assume a stronger leadership role in a basic overhaul of a fundamentally sound but outdated beef information system. Under the terms of the 1971 Statistics Act, that leadership should come from Statistics Canada. It may be that other departments, agencies or governments are better equipped to operate certain parts of the data system. Nonetheless, the co-ordination role of these activities has to be assumed by one agency to ensure that the objectives of the system are met and that authority has been invested in Statistics Canada.

The basic changes in the beef market information system relate to improved timeliness, expanded coverage, improved accuracy, more consistency, additional forecasting and specific definitions of statistics. Of these changes, timeliness of market information, consistency of data and expanded outlook are most important.

For market news to be useful to decision-makers, it must be rapidly collected and disseminated. Presently, only the publication of live cattle prices at terminal markets could be considered sufficiently current to be market news data and these are not widely distributed. Market news must incorporate, as a minimum, prices for all categories of live feeder and slaughter cattle and wholesale beef prices in major trading centres. As well, it is highly desirable to include the volume of the volumes of cattle delivered and sold at the same important markets, the total slaughter, and trade in cattle and beef. This basic market



news must be made readily available much more quickly if they are to become meaningful to influence market transactions. New communication techniques such as a commodity wire service, recorded telephone messages, television and radio tapes, daily market news information sheets, and/or other forms of rapid information dissemination techniques must be employed. Otherwise the federal government should abdicate from their role as a supplier of market news. A combination with other commodity data may provide some users with the most efficient service.

For the existing market structure, a number of additional price and marketings series must be made available to decision-makers, market analysts and policy makers. Live cattle prices need to be obtained and reported from all important auctions and all direct sales. Carcass prices for B, C and D3, D4 grades should be obtained for each regional market. Prices for major beef by-products need to be collected at least weekly. Weekly prices are required for sufficient retail cuts at a number of stores so that an average retail price can be calculated. Marketings of live cattle at country auctions need to be obtained as well as the volume of interprovincial cattle and beef movements. Sales from packing plants to wholesalers or purveyors and from these sources to retail outlets (stores and HRI firms) should be recorded, periodically, possible by type and form of beef. There needs to be improved standard market performance indicator relating to such areas as consumption, price spreads, trade, price and output stability.

Improving the accuracy of reporting prices of live cattle, by grade requires continual verification of live estimates and official carcass grades. Also, more precise categories are required for both feeder and slaughter cattle. For the latter, appropriate weight ranges and possibly adjusting to a standard dressing percentage are two means to accomplish more precision in price quotes. Carcass prices require a more precise definition as to type of buyer, a more extensive sample of sellers and verification of prices with buyers. Retail prices of cuts obtained by surveys could be weighted to account for the increased consumption resulting from specials. An updated set of benchmark weights used to obtain carcass equivalents for domestic disappearance is needed. Also, it would be desirable to specify regional and type of beef consumption. Using a retail equivalent yield instead of carcass equivalent yield for consumption estimates may give a more meaningful value to most users.

More effort needs to be devoted to obtain precise estimates of uninspected slaughter to ensure one of the most important components of commercial production and domestic disappearance is adequately measured. Inventory estimates of livestock on farms probably requires a pre-selected sample of producers to ascertain and undoubtedly improve the accuracy of the estimates.

A major weakness in the beef industry data is the appalling lack of consistency in the definition of quantity variables and prices associated with these. Births, deaths, inventories on farms, marketings, trade, stocks, slaughterings etc. need a consistent definition to enable the development of any systematic supply-demand balance sheet. For live cattle, a consistent set of categories relating to sex, weight

and/or age, region, type (beef/dairy) and purpose (breeding/feeding) would be the minimum basic categories. For dressed beef, form, (e.g. carcass, primal cuts, boneless, HRI cuts, cooked beef) type (fed, nonfed), and state (fresh/frozen) in carcass equivalent weights would be the minimum set of consistent categories.

Forecasts of prices and supplies need to be expanded to cover all of the categories outlined in the previous part. These forecasts need to be in quantitative terms (i.e. dollars, number of head, lb., etc.) possibly with a range of values. Forecasts are needed for:

- (i) the short-term which would be quarterly estimates for each quarter of the next year and with monthly or quarterly revisions;
- (ii) the intermediate term, which would be annual estimates for each of the next one to five years, and revised annually, and
- (iii) the long-term which would be for five to 10 years ahead, and revised every two to three years.

A beef industry handbook which has well defined terms is urgently needed to increase the consistency between data collectors of statistical series. For data users, it is also necessary to appreciate the exact definition of terms for published series, the source and method employed in their collection and form and means of dissemination.

The structure of the marketing system could undergo some radical change in the market for slaughter cattle and wholesale beef. An information system must be sufficiently flexible to adjust with such changes or even less dramatic changes. Continuous evaluation of the information system must be part of the total program.

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APPENDIX TABLES

Table 1: Cattle Numbers on Farms, Preliminary Estimates and Census Revisions, 1956-71.

Year	Steers			Yearling Beef Heifers			Calves		
	Preliminary	Revised	Difference (%)	Preliminary	Revised	Difference (%)	Preliminary	Revised	Difference (%)
	(000 head)	(000 head)	(%)	(000 head)	(000 head)	(%)	(000 head)	(000 head)	(%)
1951									
52	1405.7	1266.6	-	809.0	786.3	-2	2973	2908.8	-
53	1157.7	1417.2	-2	723.6	833.9	-6	3037.4	2946.3	-
54	1122.0	1182.8	-2	706.0	771.5	-8	3165.9	3022.5	+1
55	1215.1	1146.5	-1	727.9	767.8	-8	3306.9	3117.5	+3
56	1344.7	1237.5	-3	775.2	793.9	-9	3497.7	3191.4	+4
57	1460.8	1397.5	-	854.4	856.6	-1	3407.0	3344.6	-
58	1494.7	1455.1	-	906.5	868.1	-5	3481.5	3388.7	-
59	1675.5	1483.2	-	992.3	954.5	-8	3557.3	3489.8	-1
60	1723.3	1675.4	-	995.6	1079.0	-9	3608.7	3595.0	-1
61	1730.4	1723.4	-1	905.1	1102.1	-11	3493.4	3669.0	-2
62	1722.4	1751.8	-	1058.4	1027.3	-4	3511.5	3570.2	+1
63	1736.3	1734.0	-	1003.4	1104.6	-7	3435.8	3467.0	+2
64	1702.7	1702.2	-	1015.2	1087.8	-7	3399.9	3363.7	+3
65	1832.5	1702.2	+4	1103.6	1098.6	-8	3644.5	3299.0	+4
66	1885.1	1750.5	+9	1175.0	1203.9	-9	3829.7	3492.2	+4
67	1762.1	1720.9	-	1419.0	1295.5	-9	3801.6	3666.7	+4
68	1777.8			1419.0			4033.8		

Source: Statistics Canada Livestock and Animal Products (23-203) various issues.



Table 1 (Conc.)

Year	Total Cattle & Calves			Beef Cows		
	Preliminary	Revised	Difference	Preliminary	Revised	Difference
	(000 head)		(%)	(000 head)		(%)
1951	9333	8363	+11			
52	9173	9153	-			
53	9762	9806	-			
54	9954	10170	-2			
55	10239	10603	-3			
56	10465	11011.2	-4		1888.0	
57	11296	11265.0	-	1985.6	1983.7	-
58	11001	10990.0	-	2004.2	2011.5	-
59	11120	11058.0	-	2084.7	2101.6	-
60	11501	11337.0	+1	2141.4	2158.8	-
61	12116	11933.7	+1	2308.7	2341	-1
62	12075	12067	-	2419.0	2437	-
63	12305	12365	-	2530.0	2579.3	-1
64	12817	12994	-1	2730.1	2830.1	-3
65	13001	13260	-1	2870.8	3035.0	-5
66	12546	12878	-2	2768.8	2986.9	-7
67	12781	12697	-	2968.2	2995.6	-
68	12566	12487	-	2920.2	2967.0	-1
69	12467	12366	-	2909.1	2983.0	-2
70	13060	12826	+1	3082.1	3176.6	-2
71	13660.0	13270	+2	3398.5	3514.3	-3
72	13656.5			3679.4		
73	14133.5			3940.6		
74						
75						

Table 2: A comparison of Al Live prices with Market Reporter Estimates, Toronto (\$/cwt.) <sup>1</sup>

Market Days	Steers				Heifers			
	Actual Values	Market Report	Actual less Reported		Actual Values	Market Report	Actual less Reported	
			Low	High			Low	High
June 13	48.20-52.25	48-50	.20	2.25	46.00-49.75	46-48	-	1.75
June 26 <sup>2</sup>	49.62-51.17	49-51	.62	.17				
July 4	50.60-53.50	51-53	-.40	.50	45.47-47.95	45-48	.47	-.05
July 15	46.85-51.86	49-51.50	-2.15	.36	42.30-46.66	44-47	-1.70	-.34
July 18	45.02-50.64	48-50	-2.98	.64	39.25-44.26	43-46	-3.75	-1.74
July 25	48.00-51.58	48-50	-	1.58	44.43-46.16	43-45	1.43	1.16

<sup>1</sup> Prices are for lots of cattle containing Al graded animals, accounting for animals in the lot which do not grade Al, giving an Al equivalent price for the lot.

<sup>2</sup> Not a complete sample of sales.

Source: Commission Survey and Agriculture Canada market reports.



